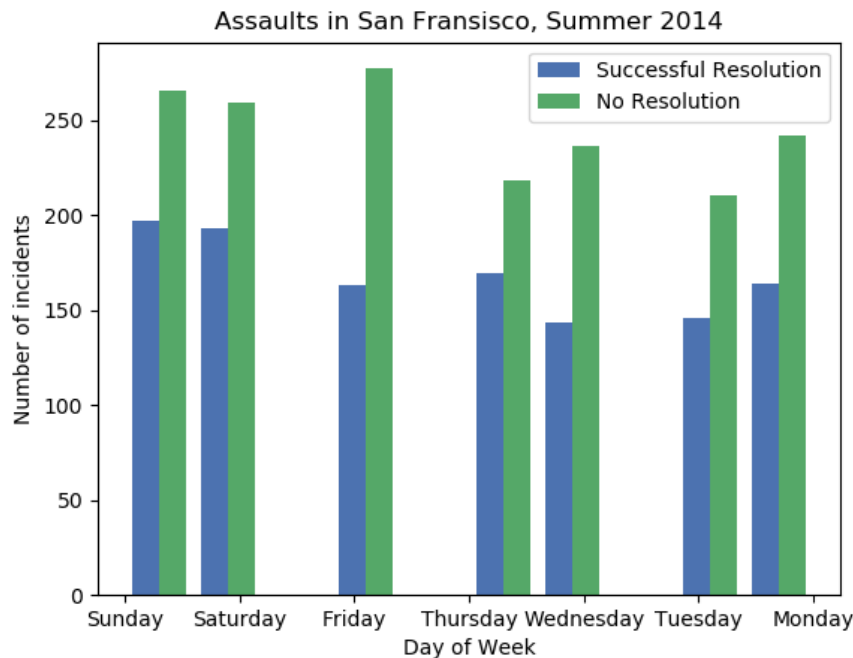


THE ATYPICALITY OF FRIDAY NIGHT ASSAULTS

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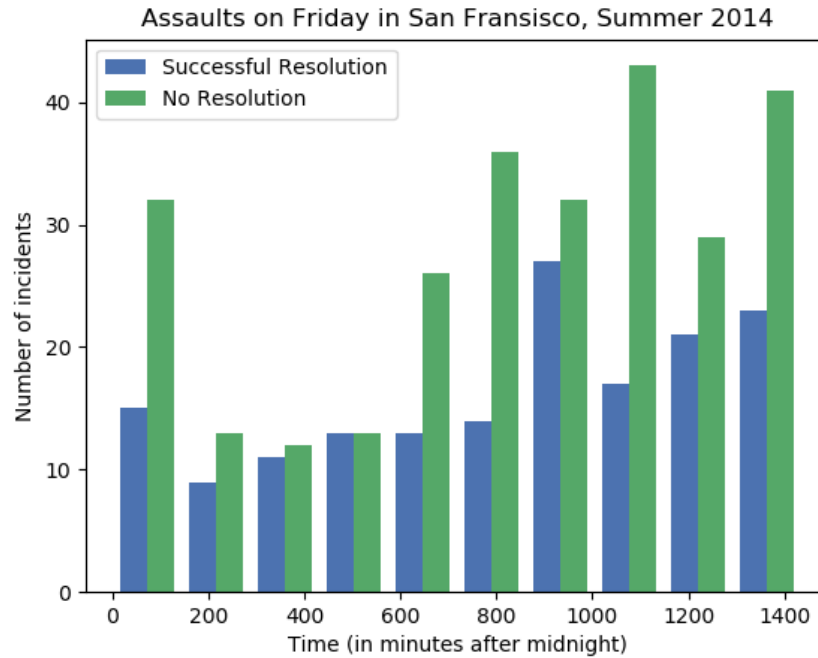
For this project, I looked at police report incidents of assaults in San Francisco over the summer of 2014. I grouped the incidents into two categories: those which were successfully resolved (meaning that the police report listed the incident's resolution as something other than NONE) and those which were not resolved successfully (meaning that the police report listed the incident's resolution as NONE).

Breaking the data down by days of the week reveals that the largest number of assaults were committed on Saturday and Sunday. However, the largest number of *unresolved* assaults were committed on Friday (Friday also had the highest *percentage* of unresolved assaults). A histogram of the number of successfully resolved and unresolved assaults by day of the week is displayed below.



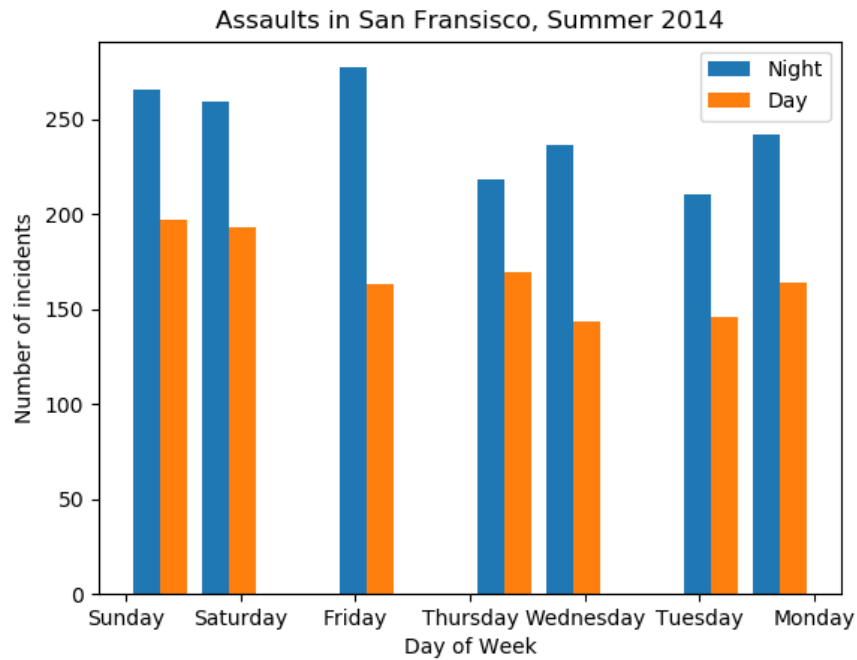
The effect looks too drastic to be explained by random chance. So why are there so many unresolved assaults committed on Friday?

Let's dive into Friday's hourly numbers in more detail. The histogram below plots the number of successfully resolved and unresolved assaults committed on Fridays (with the time axis in the form of minutes since 12:00 AM).



We see that the number of unresolved assaults skyrockets (and the rate of resolution plummets) as it grows later – Friday's atypically large unresolved assault numbers seem to be caused by nighttime assaults. This analysis suggests a possible underlying cause: the large number of unresolved assaults on Fridays could be explained by the fact that more nighttime assaults are committed on Fridays than are committed on other days of the week, as assaults committed at night may be more difficult to investigate for the police for a multitude of reasons.

If our intuition is correct, one would expect that Friday has the highest number of nighttime assaults (as well as the highest percentage of nighttime assaults). We check this using the histogram on the next page, which illustrates this discrepancy in assaults by time of day.



However initially appealing this explanation may be, it turns out that it is not satisfactory, because running the numbers shows that the police do not have more difficulty resolving nighttime crimes than resolving daytime crimes (in fact, in the data we looked at, a slightly *lower* percentage of daytime crimes are resolved). It must then be that not only are more nighttime assaults committed on Fridays, but that these assaults are somehow different in nature than other nighttime assaults. For example, it seems reasonable to suppose that Americans drink more alcohol on Friday night than on other nights, which could lead to both a higher incidence of night time assaults and more difficult cases for the police to resolve.